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NOTE

UNEMPLOYMENT FORECASTS

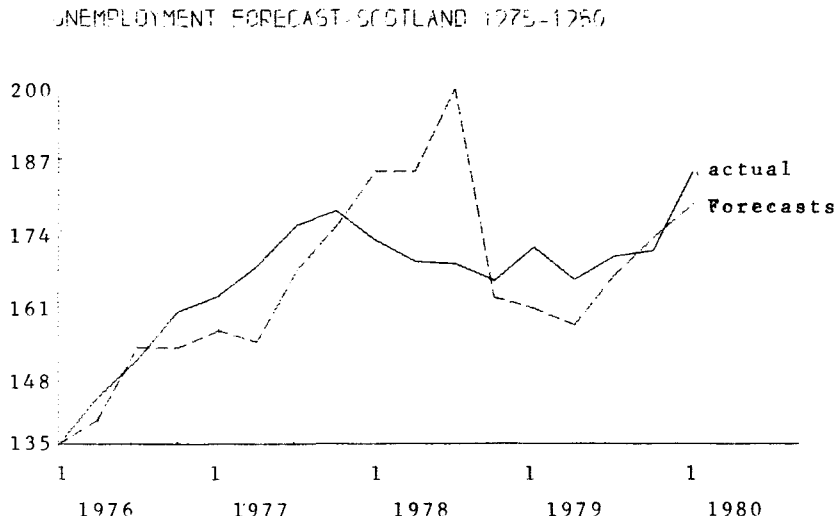
One of the main features of this commentary since its inception in July 1975 has been its regular unemployment forecasts. Each issue has incorporated a prediction of Scottish unemployment six months ahead. It was felt that unemployment forecasts were in the first instance more useful in a Scottish context than, say, output or employment forecasts for the following reasons:-

- (1) unemployment is a good indicator of the overall health of the economy - it does not relate only to specific sectors such as manufacturing or services. It was decided that more detailed sectoral forecasts were not an immediate priority. Detailed quarterly forecasts for the manufacturing sector are now becoming feasible (see Outlook and Appraisal)
- (2) the lag in production of unemployment statistics is minimal (about two weeks) whereas the lag in the production of some other key indicators is such that their use in short-term predictions is becoming increasingly unrealistic. For example, the most recent GDP statistics for Scotland relate to 1977, and these are only preliminary estimates.

Since these forecasts have been produced for some time, it is now reasonable to assess their performance. Specifically, in this note, two questions will be addressed:-

- (1) firstly, how accurate were the forecasts in terms of conformity to the actual outturn?
- (2) secondly, is there any evidence of systematic bias in the forecasts? : that is, is there a tendency for the predictions to take too optimistic or too pessimistic a view of the future course of unemployment?

A graph of the predicted (broken line) and outturn (continuous line) values is shown below



Some of the earlier figures have had to be revised in order to place all of the forecasts on a common (seasonally adjusted) basis. Predictions are currently made in terms of seasonally adjusted values because the regular peaks in Scottish unemployment which occur in June/July and January and coincide with an influx of school leavers into the labour market, are not necessarily indicative of underlying unemployment trends.

What is immediately apparent from the graph is that, while the forecasts performed reasonably well in the initial and latter parts of the period, they clearly went awry during the first three quarters of 1978. The downturn in employment which began in early 78 was largely unanticipated. Certainly, there were no demand-side indicators pointing at that time to a revival of activity in the labour market. The index of industrial production in 1978 exceeded that in 1977 by only 0.5% - hardly, sufficient to cause a 1.3% fall in unemployment. There is now some evidence, however, to suggest that part of this drop in unemployment is attributable to an expansion of employment in the non-index of production industries. Specifically, employment in financial, professional and miscellaneous services and in public administration is estimated to have risen by 13 thousand between September 1977 and September 1978. The fall in employment of 9.8 thousand over this period might conveniently be fully explained by this increase were it not for the fact that the rise in employment was almost wholly concentrated amongst females, whereas the bulk of the drop in employment was amongst males. Therefore, as indicated above, the increased demand for labour can only provide a partial explanation of the unexpected behaviour of unemployment during 1978. The implication is that there were additional supply-side influences during the last year which tended to expand the supply of female labour and to reduce the number of males looking for work. Possible explanations of such a phenomenon are varied and for the moment must remain rather speculative. Earlier retirement amongst males, additional numbers entering full-time education or increased male migration are possible explanations of reduced male labour supply but it seems somewhat arbitrary to argue for a differential sex effect with respect to these influences.

By December 1978, the forecasts were brought back on line, the prediction for that month being only 2½ thousand less than the outturn. Since then the performance has been reasonable, with the upturn in unemployment in October 1979 being correctly anticipated. The mean absolute percentage error for the last four quarters was 2.9%, compared with 4.6% for the period as a whole. The seasonally adjusted figures now look to be set on a steady upward trend for at least the remainder of 1980.

Thus, in terms of overall accuracy, recent forecasts have been reasonably precise, partially offsetting the errors which occurred in 1978. In comparison with many other economic time series, unemployment is fairly volatile and is notoriously difficult to predict. Although the mean absolute percentage error of the forecasts discussed here is somewhat higher than that which some of the better American forecasting organisations achieve with respect to GDP forecasts, nevertheless recent performance can be considered quite adequate. The forecasts are certainly more reliable than the speculations of Scottish political organisations.

The commentary has occasionally been accused of taking an over-pessimistic view of the Scottish economy. If this is true, then it is likely to be reflected in the forecasts by a systematic over-prediction of unemployment. In fact, the average error is only 1.8 thousand and its direction is on the side of underprediction rather than overprediction. One certainly therefore cannot take the view that the forecasts take an overly pessimistic perspective of unemployment prospects for the Scottish economy. The average tendency rather is to take a

slightly optimistic view of the future course of unemployment.

To conclude, therefore, the following main points emerge from this examination of forecasts and outturns for Scottish unemployment:

- (1) the major errors occurred in 1978 when an improvement in the labour market was not foreseen.
- (2) the mean absolute percentage error for the whole period was raised considerably by the discrepancies in 1978. During 1979 it was reduced to 2.9%, which given the volatility of the series, seems a fair performance.
- (3) the average error was almost negligible suggesting no systematic under or overprediction of Scottish unemployment.

It is hoped that the recent improved performance can be maintained and that the forecasts can be linked in a systematic way with the quarterly forecasts for other variables which are beginning to be generated.